

REMARKS

Claims 1-20 are pending in this application. Claims 10-19 have been withdrawn from further consideration. Claims 1, 2 and 20 have been amended. Reconsideration of the present application in view of the foregoing amendments and following remarks is respectfully requested.

Claims 1, 2, 5 and 20 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Reichenbach et al., WO 01/46066 (“Reichenbach”; the Examiner uses US 2004/0065932 as the English-language equivalent). Applicants respectfully submit that this rejection should be withdrawn for at least the following reasons.

To anticipate a claim under § 102(b), a single prior art reference must identically disclose each and every claim element. See Lindeman Maschinenfabrik v. American Hoist and Derrick, 730 F.2d 1452, 1458 (Fed. Cir. 1984). If any claimed element is absent from a prior art reference, it cannot anticipate the claim. See Rowe v. Dror, 112 F.3d 473, 478 (Fed. Cir. 1997). Additionally, not only must each of the claim limitations be identically disclosed, an anticipatory reference must also enable a person having ordinary skill in the art to practice the claimed invention, namely the inventions of the rejected claims, as discussed above. See Akzo, N.V. v. U.S.I.T.C., 1 U.S.P.Q.2d 1241, 1245 (Fed. Cir. 1986). To the extent that the Examiner may be relying on the doctrine of inherent disclosure for the anticipation rejection, the Examiner must provide a “basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics necessarily flow from the teachings of the applied art.” (See M.P.E.P. § 2112; emphasis in original; see also Ex parte Levy, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990)).

Amended claim 1 recites, in relevant parts, “a surface micromechanical structure produced in the functional layer and including movable elements and immovable elements”; “at least one electrically non-conductive first insulation layer”; “at least one first sacrificial layer”; and “a substrate to which is connected the functional layer via the at least one electrically non-conductive first insulation layer and the at least one first sacrificial layer, wherein: the movable elements are exposed by partially removing the at least one first sacrificial layer in the area of the movable elements.” Applicants note that Reichenbach does not teach or suggest a single device in which the sacrificial layer is both bonded to the substrate and the functional layer and also removed in such a way that the movable elements

are exposed, as recited in amended claim 1. Applicants will address the interpretation of claim 1 and the disclosure of Reichenbach (including the figures) in detail below.

In support of the rejection of claim 1, the Examiner cites Figures 5, 7, 10 and 11 of Reichenbach. In particular, the Examiner contends that Figs. 1-13 of Reichenbach describe the same article, and therefore “Figures 5, 7, 10 and 11 can be used in combination to teach the limitations of claim 1, *especially in light of the fact that the claimed invention includes limitations that would not be present in the same manufacturing step.*” (Office Action, p. 6). In this connection, the Examiner further contends that “claim 1 requires . . . that the at least one first sacrificial layer be removed in order to expose the movable elements,” and thus “the claimed intermediate product before removing the at least one first sacrificial layer is taught in Fig. 7 and the claimed final product after removing the at least one first sacrificial layer is taught in Figures 10 and 11.” Applicants note that the Examiner’s assertions are clearly negated by the actual claim language, the well-established rules of claim interpretation, and the rules regarding anticipation rejections, as explained in further detail below.

Initially, Applicants note that the Examiner’s assertion that “*the claimed invention includes limitations that would not be present in the same manufacturing step*” is simply incorrect; instead, all features of the claimed device according to the present invention are indeed implemented in the same manufacturing step and are indeed in the finished product, i.e., the following features are present in both the “intermediate” product (pre-removable of the sacrificial layer) and the “final” product: a) the sacrificial layer (in areas away from the movable elements); b) the movable elements (which are exposed by partially removing the at least one first sacrificial layer in the area of the movable elements); and c) “a substrate to which is connected the functional layer via the at least one electrically non-conductive first insulation layer and the at least one first sacrificial layer.”

In addition to the above, to the extent the Examiner contends that “Figures 5, 7, 10 and 11 can be used in combination to teach the limitations of claim 1,” Applicants note that the Examiner cannot simply pick individual parts from each figure and announce that the sum of the selectively combined parts is equivalent to the claimed invention: claim 1 recites a device, and Reichenbach must fairly teach the structural elements of the claimed device. While both the sacrificial layer (in areas away from the movable elements) and the movable elements (which are exposed by partially removing the at least one first sacrificial layer in the

area of the movable elements) are present in the claimed invention, as well as the feature of “a substrate to which is connected the functional layer via the at least one electrically non-conductive first insulation layer and the at least one first sacrificial layer,” Reichenbach simply does not teach or suggest a single device including these claimed features. Reichenbach merely describes a method for manufacturing a micromechanical structure in various manufacturing steps, some of which are illustrated by Figs. 5-11. Figure 5 of Reichenbach shows two freely movable elements and a first insulation layer, but no first sacrificial layer, and **substrate 10 is not connected to functional layer 16 via at least one electrically non-conductive, first insulating layer 12 and at least one first sacrificial layer 30**. Figure 7 of Reichenbach shows a first sacrificial layer and a first insulation layer, but no freely movable elements, because the patterned-out elements are enclosed by the sacrificial layer and are thus immovable. Following the removal of the first sacrificial layer (and thus the exposing of the freely movable elements) as shown in Figure 9, the sacrificial layer no longer exists and the substrate is thus also not connected to the functional layer via this sacrificial layer. Fig. 10 of Reichenbach does not show at least one first sacrificial layer 30, and **substrate 10 is not connected to functional layer 16 via at least one electrically non-conductive, first insulation layer 12 and at least one first sacrificial layer 30**. Fig. 11 is substantially similar to Fig. 10, with the exception that Fig. 11 shows a sealing layer 34 on top of the overall arrangement.

For at least the foregoing reasons, Applicants note that even if the various figures of Reichenbach were considered in combination, the figures of Reichenbach clearly do not disclose all of the features of claim 1, i.e., “a surface micromechanical structure produced in the functional layer and including movable elements and immovable elements”; “at least one electrically non-conductive first insulation layer”; “at least one first sacrificial layer”; and “a substrate to which is connected the functional layer via the at least one electrically non-conductive first insulation layer and the at least one first sacrificial layer, wherein: the movable elements are exposed by partially removing the at least one first sacrificial layer in the area of the movable elements.” Therefore, claim 1 and its dependent claims 2 and 5 are not anticipated by Reichenbach.

Independent of the above, Applicants note that the features of amended claim 2 are not taught by Reichenbach. Amended claim 2 recites, in relevant parts, “an electroconductive layer that is structured and that is contactingly situated vertically between

the at least one electrically non-conductive first insulation layer and the at least one first sacrificial layer.” In this regard, the Examiner contends that element 12 of Reichenbach is “an electrically non-conductive, first insulating layer 12,” and that electrically conductive layer 14 is situated in a layer, which is formed by the first insulating layer and the first sacrificial layer, and this configuration satisfies the claimed features of claim 2. According to Fig. 3 of Reichenbach (as well as all of the other Figures of Reichenbach that show similar embodiments), an insulating layer 12 encloses an electrically conductive layer 14 (this is described in paragraph [0039] of Reichenbach). However, as shown in Fig. 6, the electrically conductive layer 14 is clearly not positioned between the insulating layer 12 and the sacrificial layer 30. In addition, as further shown in Figure 6, the sacrificial layer does not make any contact with electrically conductive layer 14. Therefore, Reichenbach clearly does not anticipate amended claim 2.

With respect to the rejection of claim 20, Applicants note that claim 20 has been amended to recite substantially similar features as the above-recited features of claim 1, i.e., “a substrate to which is connected the functional layer via the at least one electrically non-conductive first insulation layer and the at least one first sacrificial layer, wherein: the movable elements are exposed by partially removing the at least one first sacrificial layer in the area of the movable elements.” As noted in connection with claim 1, Reichenbach clearly does not teach or suggest this claimed feature. In addition, amended claim 20 further recites that “the component includes at least one area where: the at least one electrically non-conductive first insulation layer is arranged over the substrate; a conductive layer is arranged over the at least one electrically non-conductive first insulation layer; and the at least one first sacrificial layer is arranged over the conductive layer.” As discussed in connection with amended claim 2 (which recites features related to the above-noted features of claim 20), the above-recited feature of claim 20 is not taught or suggested by Reichenbach. Therefore, Reichenbach clearly does not anticipate amended claim 20.

Claims 3-4 and 6-7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Reichenbach in view of Laermer, WO 02/38492 (“Laermer”; the Examiner uses US 2004/0112937 as the English-language equivalent). Applicants respectfully submit that this rejection should be withdrawn for at least the following reasons.

In order for a claim to be rejected for obviousness under 35 U.S.C. § 103(a), not only must the prior art teach or suggest each element of the claim, the prior art must also

suggest combining the elements in the manner contemplated by the claim. See Northern Telecom, Inc. v. Datapoint Corp., 908 F. 2d 931, 934 (Fed. Cir. 1990); In re Bond, 910 F. 2d 831, 834 (Fed. Cir. 1990). The Examiner bears the initial burden of establishing a prima facie case of obviousness. The Examiner must show, inter alia, that there is some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify or combine the references, and that, when so modified or combined, the prior art teaches or suggests all of the claim limitations. See M.P.E.P. §2143. To the extent that the Examiner may be relying on the doctrine of inherent disclosure for the anticipation rejection, the Examiner must provide a "basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics necessarily flow from the teachings of the applied art." (See M.P.E.P. § 2112; emphasis in original; see also Ex parte Levy, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990)).

Since claims 3, 4, 6 and 7 depend on claim 1, and since Laermer fails to cure the deficiencies of Reichenbach as applied against parent claim 1, the combination of Reichenbach and Laermer fails to render obvious dependent claims 3, 4, 6 and 7.

Claim 8 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Reichenbach and Laermer as applied to claim 3, and further in view of U.S. Patent No. 5,490,034 ("Zavracky"). Since claim 8 ultimately depends on claim 1, and since Zavracky fails to cure the deficiencies of Reichenbach and Laermer as applied against parent claim 1, the combination of Reichenbach, Laermer and Zavracky fails to render obvious dependent claim 8.


Claim 9 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Reichenbach and Laermer as applied to claim 3, and further in view of Zavracky and U.S. Patent No. 6,753,559 ("Chatterjee"). Since claim 9 ultimately depends on claim 1, and since Zavracky and Chatterjee fail to cure the deficiencies of Reichenbach and Laermer as applied against parent claim 1, the combination of Reichenbach, Laermer, Zavracky and Chatterjee fails to render obvious dependent claim 9.

CONCLUSION

In light of the foregoing, Applicants respectfully submit that pending claims 1-9 and 20 are in condition for allowance. Prompt reconsideration and allowance of the present application are therefore earnestly solicited.

Respectfully submitted,

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